

NDDOT Impact Determination and USACE Permitting Expectations

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Impact Determination

- Limits of construction and delineation wetlands referenced into one drawing
- **Mitigation**
 - USACE > 0.10 acre
 - Executive order 11990 all natural wetlands

Checklist

- **Appendix B – Wetlands, Vegetation, and Permitting Manual**
- **Checklist** outline what is needed in a the plan set and the permit application.

Information Needed for the Milestone Activity *Wetland Information to Environmental and/or 404 Permit Application to Environmental*
(From Consultants)

Project Number: _____

PCN: _____

Below is a list of information needed from the plans (if available) for the Section 404 Permit application and/or Final Wetland Information to Environmental. Please complete and submit information to Steve Kessler, ETS Division, Section 2, skessler@nd.gov. Any questions on the information can be sent to skessler@nd.gov; (701)328-3736. Only include information pertaining to wetlands, other waters, and mitigation.

Y / N Will the work temporally or permanently impact existing wetlands? If Yes, please give a brief description of what caused the impacts (for example: widening, culvert extension, temporary bypass, etc.) and proceed through the check list and include the applicable information. If No, please give a brief explanation and proceed to the signature line.

Y / N Has Avoidance and Minimization been incorporated into the design?

Y / N Is there any construction easements or new right of way for this project?

Y / N Are these areas within the wetland delineation area?

Y / N Are the wetlands outside the ROW in a USFWS Easement?

- If yes, see USFWS Easement Checklist.

Y / N Are all impacts covered under the Categorical Exclusion or FONSI?

Y / N Are there cultural avoidance areas required in the plans? If yes, avoidance areas need to be listed and stated in the Notes and Commitments and clearly shown as a hatch pattern and labeled "Avoidance Area" in Section 60, 75, and 80 plan sheets. See Jeani Borchert jborchert@nd.gov for wording of notes, wording in the commitments, and locations of fencing or other methods needed in the plans. Include the following from the final plan set as a separate pdf titled Cultural Avoidance (only include sheets pertaining to cultural avoidance):

- Section 6 - Notes
- Section 6 - Environmental Commitments
- Section 60 - Plan & Profile
- Section 75 - Wetland Erosion Control and Seeding
- Section 80 - Fencing Layouts

Include the items below in the information submittal:

___ Wetland Information and 404 Permit Application Check List (Completed)

___ Title Sheet

___ Scope of Work

___ Existing Typical Section(s) that includes areas with wetlands

___ Proposed Typical Section(s) that includes areas with wetlands

___ Allowable Pipe List (if available)

___ Section 75 Sheets (only sheets pertaining to wetland impacts and onsite mitigation information)

- Include and label limits of construction.
- Include the delineated wetlands. (Delineations include wetlands and other special aquatic sites such as lakes and ponds, and perennial, intermittent, ephemeral streams and other waters.)
- Include permanent and/or temporary wetland impact hatching per CADD standards. *See descriptions below.*
- Include deep water impact (fill greater than 6.6 feet below existing water line) hatching per CADD standards.
- Include onsite mitigation per CADD standards (if applicable) Contour elevations, typical section, and northings and eastings should be included to clearly show where and how to construct the mitigation. *See descriptions below.*
- Include the wetland numbers from the wetland impact table.
- Include the north arrow.
- Include the township, section, and range
- Include existing right of way, proposed right of way, and construction easements.
- Include existing and proposed pipes, box culverts, and bridges.
- Include flow lines.
- Include temporary work such as bypasses or cofferdams
If a temporary bypass is needed culvert(s) will be require to be maintained flow.
If a culvert is to be in place on a temporary bypass for an extended period of time (3 months) please use the sizing criteria below. If a velocity of 3 ft/sec or less can't be met please contact NDDOT hydraulics section.
 - Set culverts 4" below existing stream bed elevation.
 - Size culvert for a 2 year peak discharge (Q2) event, and adjust size as needed to provide a velocity of 3 ft/sec. or less at the Q2H discharge. Q2H will be calculated as $(0.2 \text{ to } 0.4) * Q2$. Typically, it is recommended that Q2H be calculated as $0.3 * Q2$.
 - Riprap should be placed on the temporary bypass embankment upstream and downstream below the water line. Other erosion and sediment controls should be used on the temporary bypass above the water line upstream and downstream.

- Sheets should be in color for the application.
- Cultural avoidance areas labeled “Avoidance Area” and hatched. (if applicable)
- Onsite Mitigation:
 - Use CADD standards for line styles and hatching.
 - Show bottom contours of intended mitigation area.
 - Include a typical section on the Section 75 sheet depicting slopes and mitigation limits.
 - Onsite mitigation should be based on survey and field delineations data. If a field delineation or survey is not completed for you project contact ETS.
- Minimization:
 - Per agency agreement lowering a box culvert and riprap 1 foot below the channel elevation is considered minimization (a form or mitigation) since this practice allows for fish and invertebrates to pass in low flow situations. Therefore, mitigation will not be required for the the box and riprap if lowered 1 foot. Box culvert extensions are not included.

___ Cross Sections(only sheets pertaining to wetlands and mitigation)

- Include the delineated wetland on the proposed cross sections (if applicable).
- Include the onsite mitigation area (if applicable). Enough cross sections should be cut to clearly show beginning and end of the area along with the elevation. For example cross sections should be cut at the beginning, center, and end of each mitigation site.
- Include existing water line for deep water areas. (water greater than 6.6 feet deep)

___ Sheets that show wetland impact details (i.e. culvert extension detail, riprap detail, temporary bypass, and slope flattening detail).

___ Final wetland impact table or completed Environmental Commitments sheet from the plans (revised from the NEPA document). A wetland impact example table is located in the design manual website under reference and forms or at the following link.

<http://www.dot.nd.gov/manuals/design/designmanual/reference-forms.htm>

The commitments template can be found in the plan prep guide at the following link.

<http://www.ugpti.org/dotsc/prepguide/plansheets/templates.php>

___ Are wetlands jurisdictional based on the wetland jurisdictional determination letter received by the USACE? If yes, the following information also needs to be provided.

Y/N Is the work on USACE property?

Y/N Are all impacts covered under the Categorical Exclusion?

___ Categorical Exclusion or FONSI signature page

___ SHPO Concurrence

__ ESA Compliance (ESA Table and any additional correspondence)

__ USACE Permit Application (NDDOT/USACE Short Form; Contact NDDOT Tech Support for the form) See Nationwide Permit General Condition 31 [Pre-Construction Notification] in the Nation Wide permit fact sheets on the USACE [website](#) for what is required for a complete Pre-Construction Notification (permit application).

__ 12 Components of Mitigation (If onsite mitigation is required for the USACE). The link below is to the 12 Components and an example. Include example.
<http://www.dot.nd.gov/manuals/design/designmanual/reference-forms.htm>

__ Onsite mitigation shown on an aerial photo. This should include north arrow, mitigation polygon, mitigation acreage, delineated wetlands, section, township, range, county, reference point, latitude, and longitude (if applicable).

__ Onsite mitigation shape files should be submitted along with the permit information. The shape files should be polygons and have Project number, PCN, and acreage attributes filled out (if applicable). See [link](#) for example attributes and ArcPad files.

__ Preconstruction photos of the proposed mitigation site should be submitted along with permit information.

Below is guidance that aid in plan development for most cases but depending on the significance and size of impact other measures may be needed on a case by case basis.

Permanent Wetland Impact description: Permanent wetland impacts change any of the existing wetland area into an upland area. For example, placing fill beyond the existing toe of slope or draining wetlands within and/or outside NDDOT ROW. A change in wetland class can also be considered a permanent wetland impact.

Temporary Wetland Impact Description: Temporary impacts result from construction traffic or fills placed in the wetland during construction. All fill must be removed to original contour. For example, fill placed on the existing inslope to the existing toe of slope within the wetland are also considered temporary since the new proposed inslope is expect to return to wetland vegetation. Temporary impacts also depend on time. Any impacts lasting longer than 180 days are not considered temporary and may require mitigation for loss of function.

Onsite Mitigation: Verify there is sufficient hydrology and soils to ensure that the creation is viable. A minimum of 10 acres of drainage area to support 1 acre of wetland can be used to determine hydrology. The final elevation of the mitigation area should match the lowest elevation of the existing wetland or be set to 0.5' below invert elevation of the control structure in the wetland to ensure enough hydrology to establish (consult with ETS for elevation). Wetland topsoil from permanent impact areas should be stockpiled separately and placed in the mitigation area (use plan note wetland topsoil). Wetland seed mix is not needed when there is enough wetland topsoil and is stockpiled less than 30 days. The upland seed mix designated for the project can be used. Wetland seeds and root material in the existing wetland topsoil will re-vegetate the site after a hydrology event. If stockpiled for greater than 30 days a wetland seed mix will be needed. See [plan note](#).

Mitigation created at the same wetland impacted receives a 1:1 ratio. Mitigation not created at the same wetland impacted receives 2:1.

Permanent impacts to Other Waters (OW), excluding deep water, may require mitigation. Impacts greater than 300 linear feet may require mitigation. Mitigation would be required for the entire length of impact. Wetland creation may compensation for loss of POWs. Contact ETS for further guidance.

A pdf of the above items to use as attachments in the application is preferred. The 404 application should also be included in its word format for USACE edits. If the final submittal is greater than 5 MB please place on the ftp site. For additional information and guidance, see the NDDOT Design Manual.

NOTE: Before providing the above information, check the USACE Jurisdictional Determination letter received in response to the Jurisdictional Request to see if there are any jurisdictional wetlands. If there are not, the letter will indicate that a Section 404 Permit is not needed. The above information needs to be given to the Environmental Section even if the wetlands are deemed non-jurisdictional for documentation of impacts to E.O. 11990 wetlands.

Designer: _____ Date: _____

Consultant Project Manager QC/QA: _____ Date: _____

Consulting Firm: _____

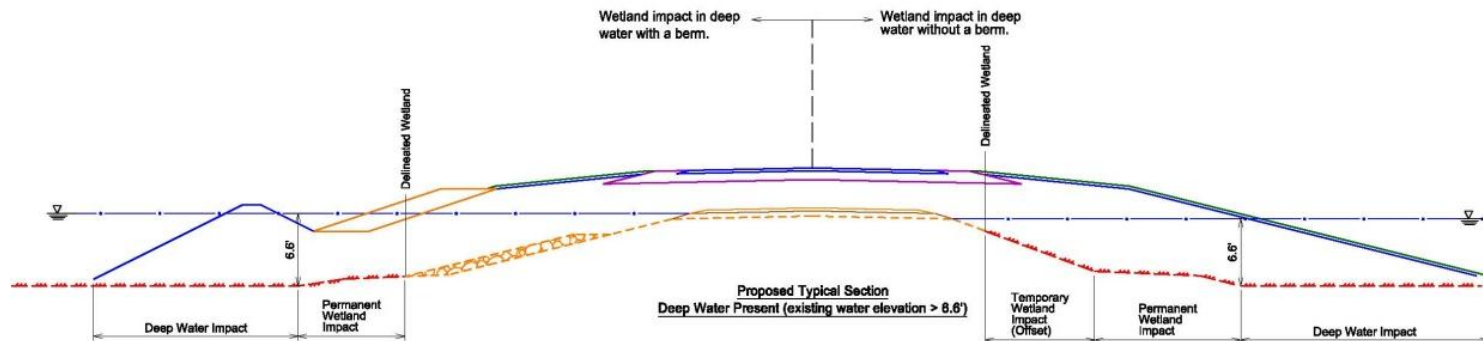
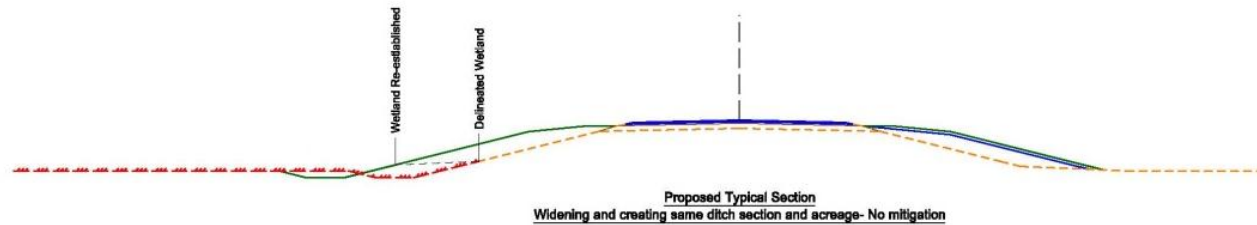
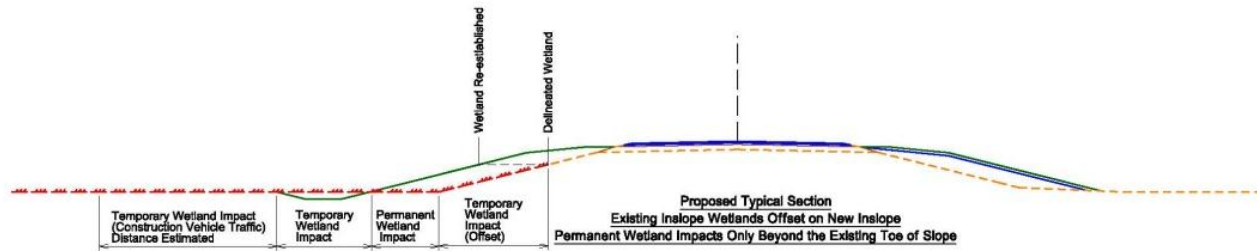
Mitigation Site Photography

A representative number of photographs shall be taken depicting the onsite wetland mitigation site. Use following photo template to document preconstruction photo information.

	Photo #: By: Adjacent wetland number(if applicable): Latitude: Longitude: Direction photo was taken: Date/Time Taken:
	Photo #: By: Adjacent wetland number(if applicable): Latitude: Longitude: Direction photo was taken: Date/Time Taken:

Impact Typical Sections

Wetlands Example Typical Sections



* Note: Existing riprap should not be within a delineated wetland. The existing riprap limits are not always known at the time of the wetland delineation. The designer may need to adjust the delineated wetland to the end of the riprap so the riprap area is not within the delineated wetland. Please contact the Environmental Section before doing so.

Standard Line Styles and Hatching

 Existing Right of Way

 Edge of Water Line

 Other Water

 Wetland Delineated

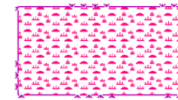
 Wetland Creation

 Deep Water

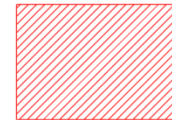
 Deep Water

 Other Water Permanent Impact

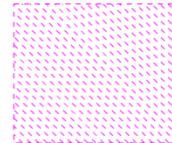
 Other Water Temporary Impact



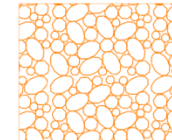
Wetland Mitigation



Permanent Wetland Impact



Temporary Wetland Impact



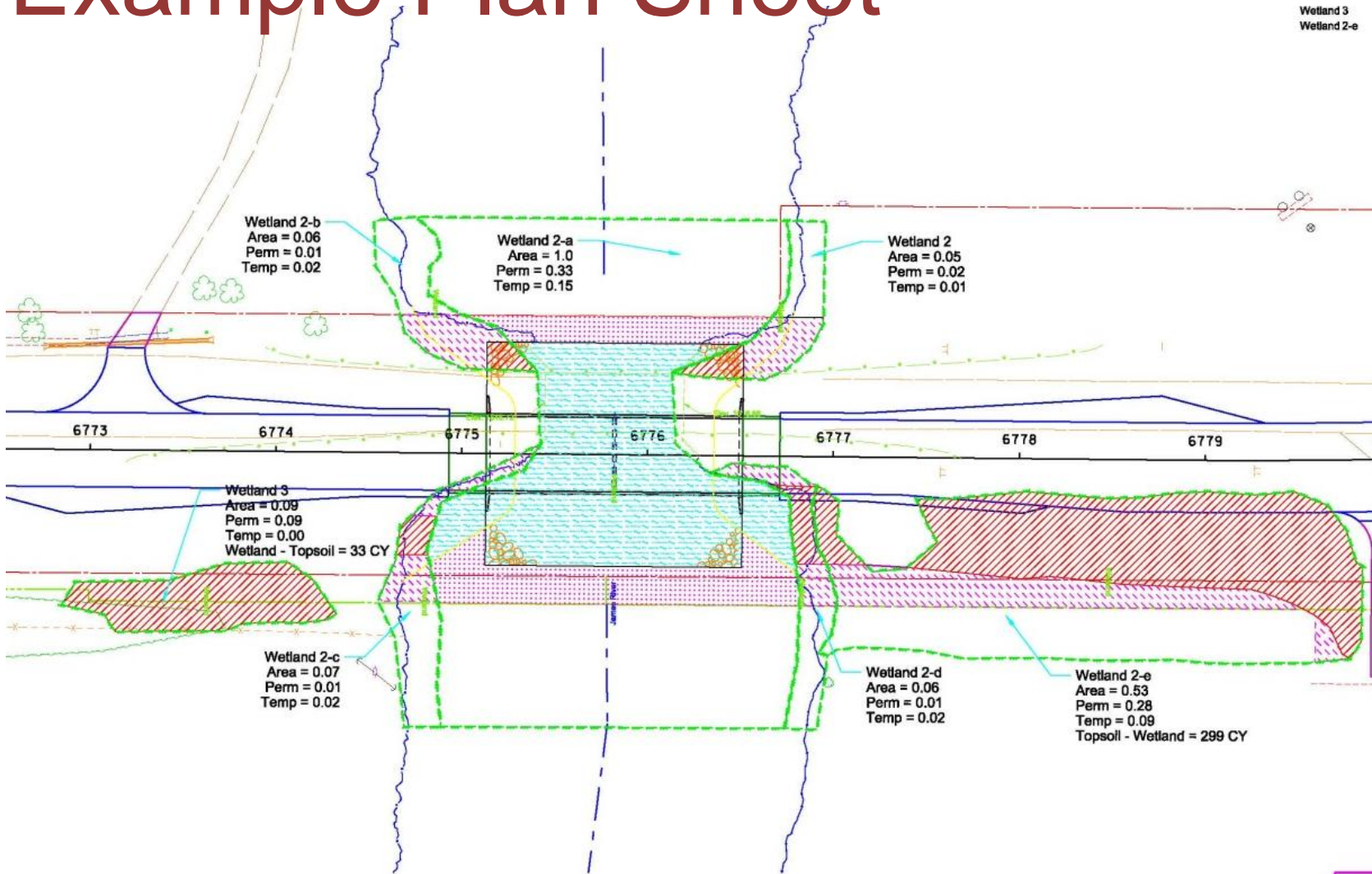
Riprap

Section 75 – Plan Sheets

- Visual Representation of Impact Location and mitigation location
- Needed Information Listed in the Checklist

Example Plan Sheet


Wetland 3
Wetland 2-e




Permanent Wetland Impact

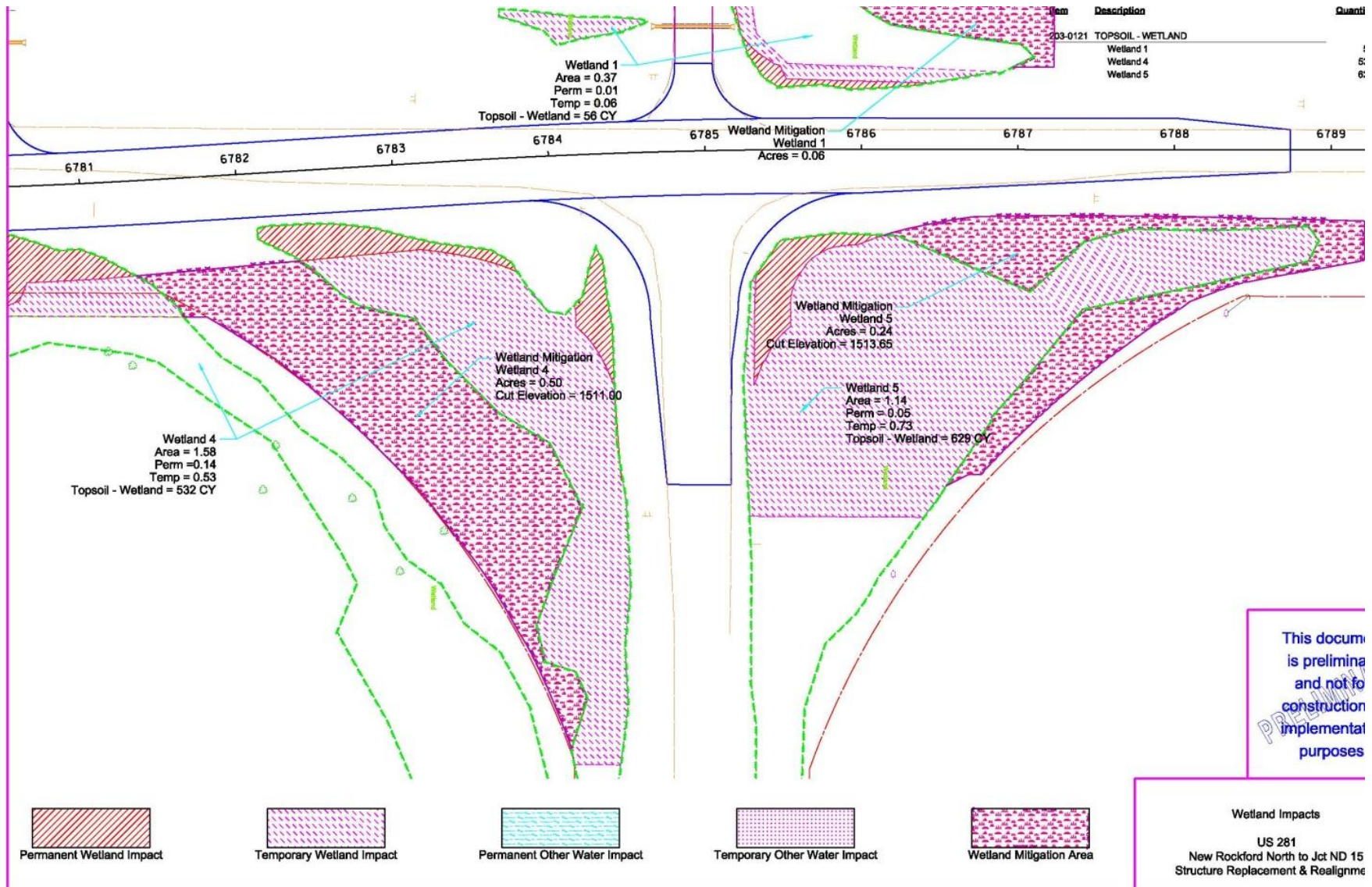

Temporary Wetland Impact


Permanent Other Water Impact


Temporary Other Water Impact

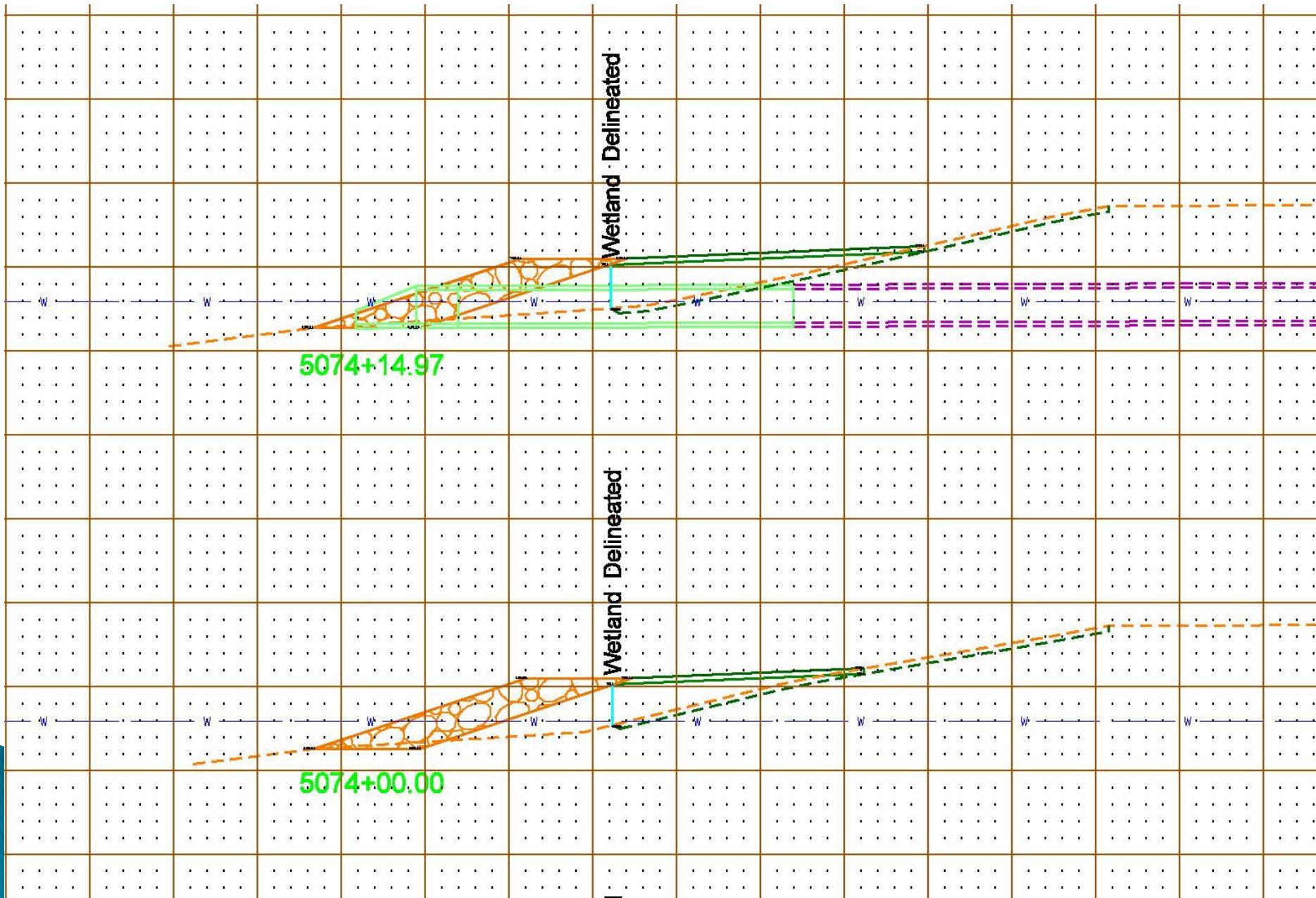

Wetland Mitigation Area

Example Plan Sheet



This document is preliminary and not for construction or implementation purposes.

Wetlands Shown In Cross Sections



Wetland Impact Table															
Wetland Number	Location	Cowardin Class.	Wetland Type	Wetland Size Ac.	Wetland Feature	USACE Jurisdictional Wetlands*	Wetland Impacts (acres)		USFWS Easement Impacts		Wetland Mitigation				Onsite Mitigation Acres
							Temp. Ac.	Perm. Ac.	Temp.	Perm.	Mitigation Required			Location; Acreage; Wetland#; Ratio	
1	Sec.19, T146N, R95W	PEMCx	Ditch	5.00	Artificial	Yes	1.00	0.60			N	Y	N	Onsite 0.5 at WL1(1:1); 0.1 at WL3 (2:1)	0.50
3	Sec.6, T146N, R95W	PEMAx	Ditch	6.00	Artificial	Preamble	0.05	0.20			N	N	N	none	0.30
4	Sec.30, T146N, R95W	PEMA	Basin	2.00	Natural	Yes	0.06	0.07			Y	N	N	Onsite 0.07 at WL 4 (1:1)	0.07
5	Sec.30, T146N, R95W	PEMCx	Ditch	0.02	Artificial	No	1.00	1.00			N	N	N	none	
Totals				13.02			2.11	1.87	0.00	0.00					0.87

* A wetland Jurisdictional Determination was issued by the USACE on x/xx/xxxx; NWO-xxxx-xxxx-BIS.

**All impacts to natural wetlands (natural/jurisdictional and natural/non-jurisdictional), regardless of size, as well as impacts greater than 0.10 acre to artificial/jurisdictional wetlands require mitigation.

***All artificial/non-jurisdictional, deep water (impacts greater than 6.6 feet), Other Waters less than 300 linear feet (determined by the USACE on a case by case), Preamble Wetlands, and temporary impacts do not require mitigation

Other Waters Impact Table															
Other Waters											Other Water Mitigation				
Number	Location	Type	Size		Feature	USACE Jurisdictional*	Impacts to Other Waters				Mitigation Required			Location	Method
			Acres	Linear Feet			Acres Temp	Acres Perm	Linear Feet Temp	Linear Feet Perm	EO 11990	USACE	USFWS		
OW10	Sec.19, T146N, R95W	Named Stream	1.50	150	Natural	Yes	0.07	0.22	60.00	420.00	Y	Y	N	on site	Box culvert lowered 1'
OW11	Sec.30, T146N, R95W	Tributary	0.20	42	Natural	Yes	0.00	0.00	0.00	0.00	N	N	N	NA	NA
Totals			1.70	192			0.07	0.22	60.00	420.00					

* A wetland Jurisdictional Determination was issued by the USACE on x/xx/xxxx; NWO-xxxx-xxxx-BIS.

Summary Impact Table			
Total Permanent Impact Summary		Temporary Impacts and additional Information	
Wetland Type	Total (Acres)	Wetland Type	Total (Acres/Lf)
Natural/JD	0.07	Temporary JD	1.06
Natural/Non-JD	0.00	Non-JD Temporary	1.05
Artificial/JD	0.60	Permanent JD > 0.10	0.60
Artificial /Non-JD	1.20	Permanent OW	0.22 ac/420 ft.
Total	1.87	Temporary OW	0.07/60

Example Impact Table

Mosaic Example Delineation

A "wetland mosaic" refers to a landscape where wetland and non-wetland components are too numerous and closely associated to be appropriately delineated or mapped separately. This patchwork of wetlands and non-wetlands is considered to be one special aquatic site.



Mosaic Example Impact



Mosaic Example Table

Wetland Number	Location	Cowardin Class.	Wetland Type	Wetland Size Ac.	Wetland Feature	USACE Jurisdictional Wetlands*	Wetland Impacts (acres)		USFWS Easement Impacts		WETLAND MITIGATION			
											Mitigation Required		Location	Onsite Mitigation Acres
							Temp. Ac.	Perm. Ac.	Temp.	Perm.	11990	USACE		
1a	Sec.27, T140N, R56W	PEM/ABF	Basin	0.83	Natural	Yes	0.03	0.03	-	-	Yes	No	Vollrath 16/17	-
1b	Sec. 27, T140N, R56W	PEM/ABF	Basin	1.00	Natural	Yes	0.05	0.05	-	-	Yes	No	Vollrath 16/17	-
1c	Sec.27, T140N, R56W	PEMAx	Ditch	1.28	Artificial	Yes	0.00	0.00	-	-	No	No	-	-
1d	Sec.22, T140N, R56W	PEMC	Basin	2.88	Natural	Yes	0.27	0.01	-	-	Yes	No	Vollrath 16/17	-
1e	Sec.22, T140N, R56W	PEMAx	Ditch	2.23	Artificial	Yes	0.00	0.00	-	-	No	No	-	-
Totals				8.22			0.34	0.09	0.00	0.00				0.00

* A wetland Jurisdictional Determination was issued by the USACE on 7/12/2013; NWO-2013-1255-BIS.

Total Permanent Impact Summary		Additional Impact Info for 404 Permit	
Wetland Type	Total (Acres)	Wetland Type	Total (Acres/Lf)
Natural/Non-JD	0.00	Permanent JD > 0.10	0.00
Artificial /Non-JD	0.00	Temporary JD	0.34
Natural /JD	0.09	OW	0 ac/0 ft.
Artificial /JD	0.00		
Totals	0.09		



Questions?

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